APPENDIX S : LUTE REPORT

Framework for Future Designs

LUTE's Final Pushme Report

March 18, 1996

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Framework for Future Designs

LUTE's Final Pushme Report

This final report summarizes LUTE's work and conclusions for the human factors portion of the Pushme project. In this final report we present an overview of the various stages of our research and the resulting design recommendations for future Pushme technologies. In the "Overview" section (pages 2-4), we briefly describe the stages which led to our recommendations. In the "Recommendations" section (pages 5-18), we present design considerations and the reasoning behind each recommendation.

Overview

Our work from April, 1995 to March, 1996 involved the following stages:

- *an assessment of the current mayday system in Puget Sound*
- *interface evaluations of the Pushme technologies*
- *a focus group meeting*

The results from each of these stages led to our framework for future design. The scope of each stage is described briefly below.

Assessment of the current mayday system

In assessing the current state of the mayday system in Puget Sound, we focused on the needs of public and private response centers. We looked at the relationship between these centers including institutional issues and user needs. This assessment occurred in two phases and included a literature review, interviews with emergency response personnel, and observations at a variety of emergency response centers.

Phase I

We assessed existing mayday systems with an emphasis on dispatch center training and current protocols through a literature review and interviews *(see Human Factors Assessment* report, 8/14/95).

Literature Review: The goal of the literature review was to identify studies that had already been done on emergency response centers, to get a sense and feel for emergency response centers, to identify areas to focus on during the field observations, and to become familiar with emergency response terminology. We reviewed literature on studies that had been conducted in the following areas: roadside emergency dispatch systems, 911 dispatch centers, private emergency services (e.g., home alarm), emergency service standards (public and private), the

role of cellular phones in emergency situations, dispatch personnel's acceptance of new technologies, stress-related factors for dispatch personnel, visual vs. verbal data in emergency situations, etc.

Interviews: We also conducted informal interviews in order to gain a better understanding of the emergency response system in Puget Sound. We interviewed the Pushme technology partners, xyPoint (formerly Sencom), Motorola, and RPSI, about their expectations and concerns with regard to the integration of the Pushme technologies with existing public and private mayday systems. We also interviewed a number of dispatchers at PSAPs (Public Safety Answering Points) in the Seattle area and dispatchers from private response centers.

Phase II

Observations: We conducted formal field inquiries at a variety of response centers in Puget Sound. These inquiries were supported by interviews, questionnaires, etc., to develop a full and accurate understanding of current practices and protocols at public and private emergency response centers (see The *Current Mayday System in Puget Sound, 2/9/96).*

Interface evaluations

After completing the two phases of assessment, we conducted interface evaluations of the Pushme technologies in order to make specific recommendations for future designs. We conducted a heuristic evaluation of the operator's interface and sending device for xyPoint, RSPI, and Motorola.

We presented our interface evaluations to xyPoint in a meeting on February 12, 1996 (they requested a verbal report). We sent a written evaluation to David Evans & Associates for Motorola and RSPI on March 5, 1996 (see Appendix A).

Focus group meeting

With results from the assessment of the current mayday system and interface evaluations we came up with a set of initial recommendations. These initial recommendations were presented (in scenario form) to emergency response personnel from public communication centers in Puget Sound at a focus group meeting. Our revised recommendations were influenced by their responses to the scenarios in the meeting.

The focus group meeting was conducted on March 5, 1996 at the University of Washington, Loew Hall, room 355 (see Appendix B). Our goal was to get input on how to successfully integrate private technologies into a well-established emergency response system like the 911 system in Puget Sound. The agenda of the meeting was divided into Part I and Part II.

Part I

We gave an overview of the meeting and introduced. the Pushme technologies. Then we presented 9 recommendations in scenario form to the public participants (WSP and PSAP representatives). For example, one consideration we presented was to have the private operators transfer medical emergency calls directly to the appropriate PSAP and provide the PSAP with a direct telecommunication link to the caller. We presented a scenario that illustrated this recommendation and asked for feedback such as:

- What protocols would you follow in the given scenario at *your communication center?*
- What would make the scenario easier for you to handle?
- Are there any issues of concern the scenario brings to mind?

For each scenario the focus group participants were asked to assume the following:

- The traveler (subscriber) has contacted the private response center and now the private response center is calling you for medical or police assistance or to inform you of incidents.
- That the calls are routed to you because the private response center has automatic jurisdiction capabilities based on the location of the traveler.
- The location of the traveler (GPS information) is accurate to the nearest 30 feet.

Part II

We had a free form discussion on issues the Pushme partners and public representatives brought up.

The results of the focus group meeting are detailed in the "Recommendations" section of this report (next page).

Recommendations

Our initial recommendations, focus group responses, and revised recommendations are presented for each design consideration in the following pages. A description of each section is provided below:

Our initial recommendations were based on a literature review, field observations and informal interviews, and interface evaluations of the Pushme technologies. In cases where we did not have an initial recommendation, we state our initial concern behind the presented scenario.

The **focus group response** is given for each scenario presented at the focus group meeting. For each scenario, the participants' (public representatives) comments are listed.

Our **revised recommendations** (or recommendation in some cases) are based on the responses the public representatives (supervisors, dispatchers, etc.) gave in the focus group meeting.

Medical emergencies with access to a phone

Initial recommendation

Medical emergencies require that the caller have direct communication with the PSAP operator or dispatcher. We recommend that--if possible--all medical calls be transferred to the appropriate PSAP and that the private operator disconnect from the call.

Focus group response

Scenario 1

- The private operator gives you the following information over the phone:

  A driver is having a heart attack on SB I-5 at mile marker 167. The driver is a 58 year old, male, conscious and breathing erratically. The license# of the car is ABC 123, WA State. It is a Red, 1982, Chevrolet Cavalier. The subscriber's cellular phone number is 206-555-4343.

- The operator then transfers the call directly to you and disconnects

Focus: How would you expect medical emergencies (with phone) to be handled when you have communication with the caller?

Participants' comments

- Medical calls should go directly to an aid dispatcher. Fire departments and large PSAPs usually dispatch aid units.
- The only time a non-aid PSAP (a PSAP that does not dispatch aid) should get a medical call is when a vehicle is blocking or police are needed.
- If non-aid PSAPs receive aid calls, they want to know the call type ("e.g., "medical") and location information so they can transfer the call to the correct aid dispatcher.
- Some PSAPs use mile marker information (e.g., at mile marker 199) and others use exit information (e.g., just south of Exit 145B).
- Calls from the private operator should come in as "911" calls, not "7-digit" calls. PSAPs cannot automatically transfer 7-digit calls using the Positron; however, they can automatically transfer 911 calls.
- They (public representatives) are concerned about the delay that might occur with private, third party communication centers.
- They are skeptical about cellular phone reliability. That is, they expect cellular callers to have a difficult time getting through on their cellular phone or to be periodically disconnected.
- Some thought it would be better for the private operator to stay on the line to reassure the caller while the caller is being transferred.

Revised recommendation

Medical emergencies require that the caller have direct communication with the appropriate medical aid dispatcher. We recommend that-if possible- medical calls be transferred to the appropriate PSAP (one that dispatches aid) or fire department. We also recommend that the private operator stay on the line until the aid dispatcher or call receiver has communication with the caller. *

If calls go through a PSAP before reaching the appropriate aid dispatcher, the private operator should only give the necessary information for a quick transfer (e.g., "medical emergency" and location). The private operator should provide medical information in the style preferred by the individual PSAPs (e.g., mile marker vs. exits).

If the police are needed in the medical emergency (e.g., the car is blocking a lane of traffic), then the appropriate PSAP should also be contacted and informed of the incident.

All private communication center calls should be transferred to PSAPs as "911" calls so PSAPs can take advantage of their Positron. Most PSAPs cannot transfer cellular phone calls over the Positron; therefore, automatic jurisdiction is crucial.

**Note: We would recommend that the private operator stay on the line as long as necessary in order to provide the aid dispatcher with relevant medical information from the caller's profile record. However, with both the public and private operators on the line, it may not be clear who is liable for the call.*

Customizing information

Initial recommendation

The PSAPs have slightly different CAD systems and protocols.In order to accommodate the PSAPs, we recommend that the private centers customize the information they give to each PSAP. That is, the private operator should provide the incident information according to the type of call, the jurisdiction and the CAD system used in the center at that jurisdiction. The operator's interface at the private communication center ought to be able to automatically generate customized summary information to be given to the PSAP operator.

Focus group response

Scenario 2

- The private operator gives you the following information over the phone:

  We have a medical emergency on SB I-5 at mile marker 199. The driver is a 32 year old, female. The license# of her car is DEF 789, WA State. It is a Blue, 1992, Ford Explorer. She does not have access to a phone.

- The data-entry screen in your CAD system looks like:

  TYPE: LOCATION:
  REMARKS:

  LIC: LIS: COL:
  VYR: MK: NAME:
  CELL PHONE:

  Focus: How would you expect medical emergencies (no phone) to be handled if you had no communication with the caller and you received information in the order you would enter it in your CAD system?

Participants' comments

- PSAPs are concerned that a third party call will slow down the whole emergency response process.
- They were very adamant about the importance of being able to talk to the person needing aid. They said, "loss of voice is a real problem."
- They are hesitant about allowing private service providers to make judgment calls about emergencies being reported.
- They want to know how the private operator would know who is pressing the "911 button" if the operator can't confirm the caller's ID through voice communication.
- They are sure people are going to hit the wrong button all the time. Their fear is that an unarmed aid car, for example, is going to be dispatched to a dangerous scene.
- They are concerned about false alarms.
- They want DIRECT voice contact with the driver.

Revised recommendation

In addition to the original recommendation. We recommend that Pushme technologies be coupled with cellular phones in order to offer voice communication when possible.

Downloading information directly to CAD

Initial recommendation

We recommend that the private centers investigate the possibility of downloading data directly to the PSAPs CAD systems.

Focus group response

Scenario 3

- The private operator downloads the following information directly to your CAD system:

```
TYPE: Med-choke LOCATION: King Dome Parking lot
REMARKS:      12 year old, female, conscious, and breathing
erratically
LIC:    GHI 345          LIS: WA    COL: Red
VYR:     1990      MK:   Honda       NAME: Civic
CELL PHONE: NA
```

- You have no telephone communication with the driver but can call the private operator

Focus: How would you feel about receiving data directly in your CAD system as opposed to receiving the information over the phone?

Participants' comments

- They don't believe information can be downloaded because it is illegal.
- There is a security issue if a modem is hooked up to a State system.

Revised recommendation

Downloading information directly to a PSAP' s CAD system does not appear to be a viable direction for the Pushme technologies to go.It is possible to download information to a separate line in the PSAP unrelated to the CAD system. Some alarm companies already do this. It would be up to the PSAP whether or not to add the information to their CAD system.

Informing the WSP and WSDOT

Initial recommendation

Inform the WSP and appropriate PSAP of all incidents reported on State Routes

Focus group response

Scenario 4

- The private operator gets a call from a subscriber whose car is broken down on the 520 bridge deck
- The private operator calls for a tow truck
- The private operator gives you the following information:

  Disabled vehicle (not blocking) on EB 520 bridge deck. Service is on the way. The driver is John Smith. The license# of the car is MNO 321, WA State. It is a Blue, 1972, Volkswagen Bug.

  Focus: How would you expect communication among the private communication center, the WSP and WSDOT to occur?

Participants' comments

- If a car is disabled and not blocking, the WSP needs to be informed. The WSP needs to be informed of incidents on State Routes so they don't send a service truck unnecessarily.
- If the accident is in a crucial area (e.g., 520 bridge), they will send the DOT tow truck so people driving by know it has been taken care of By doing so, they can prevent redundant calls from coming into the WSP.
- They use different protocols for every highway.
- It is a "major training issue" that the private response personnel understand the protocols and agencies involved on every highway and road.
- They are concerned that the private operators make the right decisions. For example, if it is up to the private operator to decide what calls to report to the WSP, the operators must be able to distinguish a "duplicate call" from a "similar" call.
- All PSAPs have a different definition of what a "critical" call is. For example, a critical call for Issaquah is every call. A critical call for King County is more defined (e.g., a blocking car or injury accident).
- Details about each call are crucial. For example, a non-blocking car could be a rollover and require additional assistance.
- They want a call back number (if possible) for the person with the disabled vehicle.

Revised recommendation

In addition to the initial recommendation, private centers should be trained on the various highway and agency protocols.

Private operators should have a fail-safe way of insuring that they report all unique incidents. That is, they should develop a method (series of questions) to ask the caller in order to determine whether it is a duplicate call or a unique call.

Handling reported accidents and duplicate calls

Initial recommendation

Work out a system with the WSP and PSAPs for filtering duplicate calls.Find out what they want to be informed of and document all calls. For example report the first call and consolidate subsequent calls into a follow-up call to the appropriate PSAP or WSP.

Focus group response

Scenario 5

- A subscriber reports an accident on I-5 to the private operator
- The private operator reports the accident to you and provides an approximate location of the accident
- The private operator receives 5 more calls about the same accident
- The private operator consolidates the information from all 5 calls and updates you with one call

Focus: How would you expect duplicate calls to be handled?

Participants' comments

- They are concerned about the delay and increase in human error when a call is passed from the private center to the public center rather than going to the public center directly.
- Aid dispatchers will not dispatch for "possible" injuries; they will only dispatch if injuries are confirmed.
- They want to know who is reporting the accident in case they have to contact them later.
- Private companies should keep records on calls (audio tapes) for at least 90 days in case the tape is needed for legal purposes.

- If a private operator receives multiple calls about the same accident, they would expect the operator to clarify the location of the accident, get witness information, and determine whether or not injuries are involved.
- The approximate location of the accident is fine for police but aid dispatchers need the exact location.
- They are not confident that private operators will be able to clearly distinguish a duplicate call from a unique call.

Revised recommendation

If there is some question as to whether the call is a duplicate call or a unique call, the private operator should inform the PSAP and let the PSAP operator make the judgment.

In cases where a subscriber is reporting an accident, the private operator should determine:

- whether or not injuries are involved
- approximate location if no injuries are involved
- exact location if injuries are involved
- whether or not the subscriber is a witness
- whether or not the subscriber is willing to be contacted by police later if necessary
- whether or not the call is a duplicate call

Private centers are encouraged to match the PSAPs' policies for making audio tapes available for legal purposes.

Possible police situations

Initial recommendation

In some situations police incidents require that the caller have direct communication with the PSAP operator or dispatcher. We recommend that--if possible-- all police calls be transferred to the appropriate PSAP and that the private operator disconnects from the call.

Focus group response

Scenario 6

- The private operator gives you the following information over the phone:

```
We have a 2 car,non-injury accident on the SE corner of
50th and University Way.  The driver reporting the
accident is Jane Smith. The license# of the car is CBA
444, WA State. It is a Brown, 1982, Toyota Landcruiser.
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- You have no telephone communication with the driver but can call the private operator

Focus: How would you handle police calls similar to this one?

Participants' comments

- They want voice communication with the caller.
- In this scenario they would want the following information: injury or non-injury, blocking or not-blocking, disturbance or non-disturbance, and DWI or no DWI.
- Often people report injuries when there are no injuries and vice versa.
- If there are no injuries, it is non-blocking, with no disturbances, and no DWI, then it will not be a priority call for police.
- PSAP operators would not disconnect from private operators or callers until they had all the information they needed and a call back number.
- If an accident occurs in a busy area (e.g., the university district), the PSAP is likely to get many calls about the incident from shop owners and others in the area.
- If this scenario involved injuries, the aid dispatcher would need very specific information from the caller in order to use the criteria based dispatching protocols (CBD). Aid dispatchers use specific triage techniques when answering a call.

Revised recommendation

In police incidents, private operators should determine whether the police are needed (e.g., possible disturbances), transfer the caller to the PSAP as soon as possible, and stay on the line in case they are needed.*

In police incidents involving injury, private operators should determine whether the police are needed (e.g., possible disturbances), transfer the caller to the PSAP as well as the appropriate aid dispatcher as soon as possible, and stay on the line in case they are needed. *

**Note: We would recommend that the private operator stay on the line as long as necessary in order to provide the aid dispatcher with relevant medical information from the caller's profile record. However, with both the public and private operators on the line, it may not be clear who is liable for the call.*

Training

Initial recommendation

We recommend that the private response center personnel go through a State approved certification program if one exists. If not, they should coordinate their training with a local PSAP.

Focus group response

Scenario 7

- The State of Washington recently established a certification program for dispatchers and call receivers
- The certification program is optional
- All private communication center personnel elect to become State certified

Focus: What sort of training would you expect private response center personnel to have?

Participants' comments

- They expect private operators "to know the area really well" such as landmarks, etc.
- They like the idea of having both a data link and a voice link. Voice communication is absolutely necessary.
- If a private center is going to be liable, then they must be trained.
- They would expect the private center personnel to be trained through a State program if one existed.
- They said State standards and an accreditation program are going to be developed for the State of Washington.
- They do not necessarily understand why the private center has to exist.
- They think it will be great to get the ANI and ALI information on cellular calls.

Revised recommendation

In addition to the initial recommendation, we emphasize the importance of having the option of voice communication.

Handling stolen vehicles

Initial concern

This scenario was presented to spark discussion. During our observations, PSAPs gave stolen vehicles a low priority.

Focus group response

Scenario 8

- The private operator gives you the following information over the phone:
  `We have located our subscriber's stolen car. It is at 5678 Englewood Drive. The owner of the car is Kate Jones. The license# of the car is KLM 222, WA State. It is a Red, 1990, Volkswagen Rabbit.`

- You can contact the subscriber and/or the private operator directly

Focus: How would you handle a car theft?

Participants' comments

- They need to know if the stolen car is occupied.
- They need to know the details on how the stolen car was located.
- If the stolen car is occupied and moving, it is "a whole different situation."
- They would need the case number associated with the stolen car, assuming the stolen car was reported to police.
- If a stolen car is recovered, the private operator or the owner of the car must inform police.
- Not all "stolen" cars are actually stolen.
- In order for police to act on an occupied stolen, they need written consent from the owner of the car.

Recommendation

If subscribers report their cars as stolen, they should place a report to the police and authorize a felony stop.

The subscriber should expect a slow response from the police.

If the subscriber cancels their stolen car report, the police must be informed.

Handling moving emergencies

Initial concern

This scenario was presented to spark discussion. During our observations at the WSP, dispatchers had a moving emergency where the caller was moving from one jurisdiction to another.

Focus group response

Scenario 9

- The private operator gives you the following information over the phone:

```
The caller (subscriber) is being followed by a stalker.
She reported the stalker to the police last week.  The
subscriber is afraid to pull over or stop the car. She is
currently going N on I-5 and approaching the Snohomish
county line. The driver is Sue Jones. The license# of her
car is QRS 111, WA State. It is a Blue, 1993, Ford
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Taurus. The car following her is green with the license# LMN 222.

- The private operator establishes a 3-way telecommunication link with you, the private operator, and the driver
- The private operator continues to update you with the current location of the driver
- The driver is nearing the county line

Focus: How would you handle a moving emergency?

Participants' comments

- They would prefer that the caller dial 911 first, then the PSAP operator can call the private operator to get the location of the caller.
- They want a call-back number for the caller.
- They are concerned that the caller will be confused about whether to use the "911" button or to dial 9-l-l.
- If the caller were to dial 9-1-1, the PSAP operator would give him or her directions to the nearest police station.
- The PSAP operator wants direct contact with the caller.

Recommendation

In a moving emergency, the PSAP operator should have voice communication with the driver.

Summary

The following issues were discussed during the open discussion at the end of the focus group meeting.

Voice communication is necessary

Dispatchers rely on voice and hearing background noise to assess each call. Even the attempt of voice communication is informative. For example, if someone does not pick up a ringing phone, the PSAP can assume it is a real emergency. If the PSAP operator can't even attempt to call the caller, he or she has no way of confirming the emergency.

Although a data link is useful, dispatchers are unlikely to respond to a "data only" call. They won't do anything until they talk to the person reporting the incident. If a two-way data link is the only alternative, dispatchers want a call-back number as a backup,

PSAPs want to maintain control and judgment

The public representatives stressed their concern with private centers making judgments about 911 calls. The PSAPs do not want to relinquish any control (decision-making power) to the private centers. They are used to alarm companies who do not make any judgments about calls. Alarm companies simply relay facts about alarms. The more facts or information the PSAPs can get from private operators, the better.

Screening or filtering 911 calls should not be the responsibility of a private center according to the public representatives. In some cases, PSAPs act as the primary answering point for private companies.

Issue of "Privacy" and "Consent"

Privacy issues and two-party consent should be of concern for the private response centers. For example, if personnel at a private response center can listen to what goes on in a stolen car (via a hidden microphone), it may be an infringement on the suspect's right to privacy.

There are a number of liability issues for stolen car incidents. Police can't do anything without probable cause and written consent from the owner of the car. It may be enough for the car owner to give the PSAP verbal consent if the private operator can confirm the voice of the person on the line (3-way communication or conference call).

In all cases involving taped conversations, private operators and their subscribers must be prepared to be subpoenaed if their tapes are released as legal evidence.

False alarms and filtering

If the Pushme technologies were marketed as high-end devices there would be fewer calls; however, the private center would still need a way of verifying calls and have a policy for false alarms. The public representatives assume there will be fines established for false alarms.

PSAPs are working on a technological solution for filtering duplicate calls through congestion control at cell sites.

Working <u>without</u> private response centers

During the focus group meeting, the public representatives questioned the need for a private response center. One comment was, "getting the location of the traveler certainly solves one problem, but having a private response center introduces many other problems."

If the calls were routed directly to the PSAP and there were no private centers, the PSAPs would be responsible for responding to all of those calls. If they were given the location and phone number of a caller, it would be their duty to respond.

They believe that eventually (within the next 5 years) GPS technology will be used to locate cellular phone calls and the PSAPs will handle these calls without a third party intervening.

Working with private response centers

The private response center personnel should be State certified or thoroughly trained and know the protocols of all the PSAPs and State routes.

In order to accommodate those PSAPs that cannot automatically transfer cellular phone calls, private companies should provide a trunk that would identify and cue their calls as "911" calls. By doing so, the calls that go from the private center to the PSAPs will be priority calls (with automatic transfer capabilities) not 7-digit calls. 911 calls can be transferred automatically at most PSAPs.

Private operators should provide call type (e.g., medical, police, etc.) and caller location then transfer the call to the appropriate PSAP, aid dispatcher, or WSP communication center as soon as possible. The caller should have voice communication with the operators. The private operator should be able to transfer (via 3-way communication) the callers to the PSAP.

Appendix A

Overview:
Pushme Interface Evaluations

Usability Heuristics

We used the following heuristics* to evaluate the xyPoint (formerly Sencom) operator's interface and sending device, RSPI's operator's interface, and Motorola's sending device.

- Visibility of system status: *Can users understand the feedback information?*
- Match between system and the real world: *Does the interface follow real-world conventions?*
- User control and freedom: *Are there quick and safe exits (e.g., undo, cancel, back, etc.) ?*
- Consistency and standards: *Do they use the same terminology as the PSAPs?*
- Error prevention: *Are problems easily prevented?*
- Recognition rather than recall: *Are objects, actions, and options visible? Is valuable information hidden in dialogs? Do users have to stop and think about how to receive or send information?*
- Flexibility and efficiency of use: *Can users tailor frequent actions?*
- Aesthetic and minimalist design: *Do dialogs contain irrelevant or rarely used information?*
- Help users recognize, diagnose, and recover from errors: *Are error messages displayed in plain language (no codes), do they precisely indicate the problem, and constructiveIy suggest a solution?*
- Help and documentation: *Is help easily searched, task-oriented, concrete, and manageable?*

Scenarios (from observations)

In addition to scenarios that came to mind when we did the evaluations, we ran through the following scenarios during our evaluations:

1. Caller is out of gas (caller needs directions to the gas station).
2. Caller has a flat tire.
3. Caller (or caller's passenger) is having a heart attack.
4. Caller was just in an accident and is injured.
5. Caller is reporting an erratic driver.

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1 See Nielsen & Mack (1994). Usability Inspection Methods.

specific areas investigated (from observations)

We also took a critical look at:

- Mouse and keyboard use: *the CAD systems used in the PSAPs are keyboard driven and the call receivers and dispatchers rely heavily on taking extensive notes. The Pushme interfaces seem to be primarily mouse driven.*
- Online maps: *Were they similar to the maps we saw in the field?*

Reports

We presented our interface evaluations to xyPoint in a meeting on February 12, 1996 (they requested a verbal report). We sent a written evaluation to DEA for Motorola and RSPI on March 5, 1996.

Appendix B

Overview:
Focus Group Meeting

The focus group meeting was conducted by LUTE (Judy Ramey, Erin Schulz, and Matt Shobe) on March 5, 1996 at the University of Washington, Loew Hall, room 355.

Attendees

Public representatives:
Rana Hoover, Dispatcher, Issauqah PSAP
Sue Chapin, Supervisor, King County PSAP
Jerrod Strid, Dispatcher, Ring County PSAP
Bob Oenning, Director, E-91 1 (Olympia)
Debbie Henderson, Supervisor, WSP (Marysville)
Kandy Roseth, Supervisor, Kirkland Police Department
Judy Cothern, Supervisor, SNOPAC
Morgan Balogh, WSDOT
Marlys Davis, E-91 1 (King County); she attended the last half of the meeting but did not participate

Pushme Representatives
Jean Lambson, William Clise, Jane Bissonnette, Bart Cima, Jim Benson, Mark Haselkorn, and Kathy Semple.

Invited but did not attend:
Vickie Crawford, WSP (Bellevue)
Roy Kittleson, WSP, (Bellevue)
Vicki Wise, Supervisor, Issaquah PSAP
Marge Williams, E-9 11 (Snohomish)
Ruth McMullen, Dispatcher, Kirkland PSAP

Agenda

Part I

- Judy Ramey gave a brief introduction.
- Erin Schulz gave an overview of the meeting.
- Matt Shobe described the Pushme technologies.
- Erin Schulz presented 9 scenarios (one at a time) to the public representatives for their response. The Pushme partners were observers, not participants, during these scenario discussions.

Part II

We had a free form discussion on issues the Pushme partners and public representatives brought up.